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BARNETT: To make sea traffic transparent

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One of the main problems in counterterrorism today is that there are so many people and vehicles, and so much data and material, moving through globalization's myriad networks that it seems virtually impossible to track it all effectively. Nowhere has this problem been more acute than on the high seas.

In 2006, Adm. Harry Ulrich, then-U.S. commander of NATO Naval Forces Europe, decided to do something about it. Despite having virtually no resources, his dream was to transpose the global air-traffic control system onto sea traffic.

(Full disclosure: Adm. Ulrich is now executive vice president at my company, Enterra Solutions.)

Worldwide, aircraft are transparent, because they're all required to carry an identification beacon that allows them to be tracked leaving and entering airports, and monitored between airports, by a global network of sensors. Act suspiciously and somebody's fighter aircraft will soon be on your tail.

No such pervasive system currently exists globally for maritime traffic. While bigger ships carry an ID beacon similar to aircraft, without a shared monitoring network, that's like tracking only selected commercial jets and giving everyone else a pass.

So Adm. Ulrich, upon taking command, asked a simple question: "If we can do that in the air, why can't we do it on the sea?" He made a point of pioneering his sea-traffic-control effort first inside the Mediterranean, where NATO's southern naval forces have historically been concentrated, but his real target was waters off Africa - the most ungoverned maritime space in the world.

Adm. Ulrich knew the U.S. Navy couldn't do it alone, much less bring Africa's meager coast-guard-like navies up to snuff so they could do it on their own. So he quickly created a network of assets - both public and private - to manage that space, modeling his monitoring system on international air-traffic control.

Adm. Ulrich began stitching together a network of shore-based sensors ringing the Mediterranean. His naval command then began initial monitoring by tapping into the International Maritime Organization's existing Automated Identification System, transforming NATO's ability to track Mediterranean

ship traffic.

Almost overnight, NATO went from tracking dozens of ships on the Mediterranean to thousands, and instead of getting the data sometimes up to 72 hours late, now the contacts were being tracked in 1 to 5 minutes - to an accuracy within 50 feet on the Earth's surface.

When the classic big-firm systems integrators told Adm. Ulrich it would be too costly to pull it off, the admiral turned to the Volpe Center in Cambridge, Mass., a U.S. Department of Transportation research center. Instead of hundreds of millions of dollars, Adm. Ulrich's initial network cost \$900,000. The shore-based receivers are small, roughly the size of a radar dish on a pleasure craft.

The system's strength is a function of its reach: The more countries join, the larger the shared operational picture. By the time Adm. Ulrich retired at the end of 2007, he had enlisted 32 countries throughout the Mediterranean, the North Atlantic, along the West Coast of Africa, around the Black Sea, and in the Pacific. Today, the network continues to spread around the planet.

With Adm. Ulrich's system in place, local police, coast guards, and border patrols catch most bad guys, obviating American military responses. As Harry told me for an article I wrote about his work in a fall 2007 issue of Esquire: "I don't do defense; I do security. When you talk defense, you talk containment and mutually assured destruction. When you talk security, you talk collaboration and networking. This is the future."

The admiral's legacy program, the Maritime Safety and Security Information System, earned the Volpe Center a prestigious "Innovations in American Government" award this month from Harvard University's Ash Institute for Democratic Governance and Innovation.

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